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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,751	04/18/2001	Allan Green	45-00	8897

23713 7590 08/04/2004

GREENLEE WINNER AND SULLIVAN P C
5370 MANHATTAN CIRCLE
SUITE 201
BOULDER, CO 80303

EXAMINER

MCELWAIN, ELIZABETH F

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 08/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/837,751

Applicant(s)

GREEN ET AL.

Examiner

Elizabeth F. McElwain

Art Unit

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 109-146 is/are pending in the application.
- 4a) Of the above claim(s) 127-130 and 140-143 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 109-126, 131-139 and 144-146 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

The amendment filed May 10, 2004 has been entered.

Claims 62-108 have been cancelled.

Claims 109-146 are newly submitted.

Election/Restrictions

Applicants' election with traverse of Group VI, SEQ ID NO: 3 and 4, in Paper No. 7 and 11 was acknowledged in the last office action, stating that the Examiner will examine SEQ ID NO: 3 and sequences coding for SEQ ID NO: 4, and claims relating to delta 12 fatty acid desaturase and claims relating to interrupted inverted repeats to the extent that they read on SEQ ID NO: 3 or 4.

Claims 127-130 and 140-143 are withdrawn as a non-elected invention wherein the claims are drawn to cotton seed oil, which would have been included in Group XIV in the restriction requirement.

This application contains claims 140-143 drawn to an invention nonelected with traverse in the reply filed on May 10, 2004. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claims 109-126, 131-139 and 144-146 are examined on the merits.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

Art Unit: 1638

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 109-126 and 131-139 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims are drawn to plants comprising specific levels of certain fatty acids, 58.5%, 66% or 68.9% oleic acid, for example. However, applicants have not indicated where in the specification or the originally filed claims there is support for these specific percentages of oleic acid.

3. Claims 109-126 and 131-139 and 144-146 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of decreasing expression of a delta-12 fatty acid desaturase by transforming a cotton plant with a construct comprising either a full length delta-12 fatty acid desaturase gene in antisense or with a construct comprising inverted repeats of a delta-12 fatty acid desaturase gene that are 850 bp and optionally with a 92 bp intervening sequence, as well as the transgenic cotton plants and seeds produced by said method, does not reasonably provide enablement for the same method wherein the construct merely comprises a 20 nucleotide fragment of a delta-12 desaturase gene, as stated in the last office action for claims 62-65, 67-77, 79-85 and 101-108.

Art Unit: 1638

4. Applicant's arguments filed May 10, 2004 have been fully considered but they are not persuasive. Applicants assert that the newly filed claims do not teach use of constructs having as little as 20 nucleotides, and therefore the rejection does not apply. Applicants argue that the specification describes and exemplifies several gene constructs that reduce expression of the endogenous cotton ghFAD2-1 gene and that one skilled in the art would be able to make and use other constructs in a similar manner.

5. The Examiner maintains that the claims are now more broadly drawn to use of any gene construct that encodes a ribonucleotide molecule which reduces the expression of the endogenous cotton ghFAD2, and not limited to a ribonucleotide that is part of the ghFAD2 gene, while the specification only teaches a method of decreasing expression of a delta-12 fatty acid desaturase by transforming a cotton plant with a construct comprising either a full length delta-12 fatty acid desaturase gene in antisense or with a construct comprising inverted repeats of a delta-12 fatty acid desaturase gene that are 850 bp and optionally with a 92 bp intervening sequence, as well as the transgenic cotton plants and seeds produced by said method. The specification does not teach the use of other ghFAD2 constructs, much less the use of unrelated sequences that might produce a similar effect. Furthermore, applicants have argued at page 12 of the response with regard to the rejection under 35 USC 103 that reducing expression of the ghFAD2-1 is unpredictable given the high level of homology with the delta-12 desaturase family of mixed function mono-oxygenase enzymes in plants, which "are known to catalyze a range of reactions at the delta-12 position of C18 fatty acids including but not limited to desaturation, acetylenation, epoxygenation and hydroxylation", further stating that

Art Unit: 1638

“demonstration that a gene from cotton is a member of the delta-12 desaturase . . . family does not predict that inhibition of the gene would increase oleic acid content of the cotton seed oil.

No claims are allowed.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth F. McElwain whose telephone number is (571) 272-0802. The examiner can normally be reached on increased flex time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (571) 272-0804. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

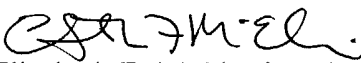
Art Unit: 1638

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

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For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.


Elizabeth F. McElwain, Ph.D.
Primary Examiner
Art Unit 1638

EFM